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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,646	06/21/2001	David Burnett	620-010334-US(PAR)	6138

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PERMAN & GREEN  
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FAIRFIELD, CT 06824

EXAMINER
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BASHORE, ALAIN L

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/886,646

Applicant(s)

BURNETT, DAVID

Examiner

Alain L. Bashore

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 - 5 and 7 - 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over PPG Industries (WO 00/75242 A2) in view of Tanaka et al. (WO 97/48772 A1).

[Please note that USPN 6,340,519 B1 corresponds to the 371 (i.e., National Stage) Application of WO 97/48772 A1 and is being used as an effective English-language translation of the aforementioned WO document (which was published in Japanese)].

Regarding independent Claim 1, PPG teaches a light-refracting, color-enhancing composition for applying coatings to a substrate, the composition comprising a mixture of (1) transparent or translucent glass beads having a diameter up to about 70 microns, and (2) a resinous binder material which cures to form a light-refracting paint layer (Abstract; page 2, lines 2 - 6., page 3, lines 1 - 13., page 4, lines 3 - 15-,

Art Unit: 1762

page 5, lines 1 - 4-, page 6, lines 1 - 11 and 19 - 28,, page 7, lines 1 - 12., page 8, lines 6 - 28; page 9 ;, page 10, lines 1 - 19', page 11, lines 26 - 28.v pages 12 - 13.,

page 14, lines 1 - 16; page 21, lines 4 - 14; page 29', and page 30, lines 1 - 23).

PPG does not explicitly teach that the coating composition comprises pelletized rubber. However, the coating compositions of PPG are clearly open to containing a wide variety of different additives (page 9, lines 16 - 21 ; page 14, lines 1 - 16).

Tanaka et al. teaches an analogous coating composition that can be utilized as a chipping-resistant paint for coating automobiles (i.e., a similar application to that of PPG) (Abstract). Tanaka et al. teaches that the paint can contain "reinforcing materials" such as natural or synthetic rubber powder in addition to the film-formable resin (Col.5, lines 64 - 67, and Col.6. lines 1 - 7).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the rubber powder (i.e., the "pelletized rubber") of Tanaka et al. into the coating / paint composition of PPG with the reasonable expectation of successfully and advantageously reinforcing the coating (i.e., increasing the chip-resistance of the coating). The combination of PPG and Tanaka et al. does not explicitly teach that the composition cures to form a hard, translucent paint layer. However, this statement regarding the curing of the composition is simply a statement of intended use and is not read into or given patentable weight in a composition claim.

Additionally, the coating composition taught by the combination of PPG and Tanaka

et al. is identical to the applicant's claimed composition and is capable of being cured to form a paint layer (see pages 29 and 30 of PPG). Therefore, unless essential components are missing from the applicant's claimed composition, the composition of the combination of PPG and Tanaka et al. would inherently form a hard, translucent, light-refracting paint layer when cured. 11. The combination of PPG and Tanaka et al. also teaches all the limitations of Claims 2 - 5 and 7 - 13 as set forth above in paragraph 1Q and below, including a composition wherein / further comprising:

Claims 2 and 3: The beads have a maximum diameter within the range of about 10 to 20 microns (Claim 2), particularly between 12 and 18 microns (Claim 3). Specifically, PPG teaches that the microsphere beads have a diameter ranging from about 1 to about 500 microns, preferably about 1 to about 50 microns (page 4, lines 11 - 15., page 6, lines 25 - 26). This range of bead diameters encompasses the applicant's claimed range, and it would have been obvious to one of ordinary skill in the art to select the portion of the range taught by PPG that corresponds to the applicant's claimed range because such bead diameters can clearly be successfully utilized in the composition of PPG. Please note that when claimed ranges lie inside ranges disclosed by the prior art, a prima facie case of obviousness exists (See MPEP 2144.05(I)).

Claims 4 and 5: The beads are clear glass and have a refractive index

Art Unit: 1762

between about 1 .5 and 2.5 (Claim 4), particularly between about 1.9 and 2.1 (Claim 5) (page 5, lines 1 - 4; page 6, lines 1 - 11; and page 7, lines 1 - 3 of PPG).

Claims 7 and 8: The pelletized rubber particles have a diameter up to about 150 microns (Claim 7) (C01.6, lines 2 - 4, of Tanaka et al.), and the pelletized rubber content is between about 2% and 40% by weight (Claim 8) (Col.6, lines 6 - 7 of Tanaka et al.).

Claim 9: The binder material comprises a mixture of a pre-polymer having reactive sites, and a poly-functional cross-linking agent which is reactive with said sites to cure the binder material (page 7, lines 4 - 12\*, page 8, lines 6 - 28', page 9, lines 1 - 26; page 12; and page 13, lines 1 - 11 of PPG).

Claim 10: The resinous binder material contains a volatile solvent or vehicle which is evaporated to dry the coating below the baking temperature of the paint composition (page 9, lines 19 - 20; page 13, lines 12 - 27., and pages 29 - 30 of PPG).

Claim 11: The volatile solvent is an organic solvent (page 9, lines 19 - 20; page 13, lines 12 - 27 of PPG), and the coating composition has a solids

Art Unit: 1762

content above about 60% (page 10, lines 1 - 3; page 13, lines 27 - 28 of PPG).

Claim 12: The volatile vehicle is water (page 9, line 20; page 13, lines 12 - 13 of PPG).

Claim 13: The glass bead content is between about 10 - 20% by weight of the composition. This limitation is not explicitly taught by the combination of PPG and Tanaka et al. However, PPG does teach that the amount of microsphere beads included in the coating compositions can vary depending upon the average diameter of the beads and the amount and particle size of the other components, such as pigments, in the coating compositions (page 19, lines 12 - 15). PPG also teaches that the amount of beads in the coating composition should be sufficient to yield a component having daytime unnoticeability and nighttime retroreflectivity (page 19, lines 15 - 21). In other words, PPG teaches that the amount of beads in the coating composition is a result / effective variable that determines the retroreflectivity of the coated substrate. Therefore, it would have been obvious to one of ordinary skill in the art to optimize the glass bead content of the coating composition of the combination of PPG and Tanaka et al. as a result / effective variable through routine experimentation with the reasonable expectation of successfully and advantageously obtaining a coating composition that, when coated on a

substrate, can provide the substrate with the desired amount of retroreflectivity. In optimizing the glass bead content, one of ordinary skill in the art would have balanced factors such as daytime unnoticeability and nighttime retroreflectivity and would have taken into consideration factors such as the average diameter of the beads and the amount and particle size of the other components, such as pigments, in the coating composition.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over PPG Industries (WO 00/75242 Ae?) in view of Tanaka et al. (WO 97/48772 A1), and in further view of either DeMaster (USPN 4,035,059) or Nakajima (USPN 5,777,790).

The combination of PPG and Tanaka et al. teaches all the limitations of Claim 6 as set forth above in paragraphs 10 and 11, except for a composition in which the glass beads comprise a mixture of beads having different refractive indexes. However, PPG'S teaching that the average index of refraction of the microsphere beads is about 1.9 (page 7, lines 1 - 3) at least suggests to one of ordinary skill in the art that all of the glass beads in the coating composition are not required to have the same refractive index. Additionally, the goal of PPG is to provide a retrofledive coating composition (Abstract). DeMaster teaches that, in order to obtain retroreflection under both wet and dry conditions, a mixture of microspheres having dilerent refractive indexes should be utilized (Col.3, lines 58 - 68, and Col.4, lines 1 - 8).



Art Unit: 1762

Nakajima teaches that retroreflective performance is improved when microspheres having different refractive indexes are mixed (Abstract, Col.2, lines 24 - 46, and Col.4, lines 30 - 38). Therefore, it would have been obvious to one of ordinary skill in the art to utilize a mixture of beads having different refractive indexes in the coating composition of the combination of PPG and Tanaka et al. with the reasonable expectation of successfully and advantageously improving the retroreflective performance of the coating, as taught by either DeMaster or Nakajima.

### ***Response to Arguments***

7. Applicant's arguments filed 4-16-04 have been fully considered but they are not persuasive. The arguments are not commensurate in scope to the claims. There is not claimed improving the bonding properties of glass beads. The Tanaka et al reference does not teach away from the use of rubber particles as one type of reinforcing material.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alain L. Bashore whose telephone number is 571-272-6739. The examiner can normally be reached on about 7:30 am to 5:00 pm (Mon. thru Thurs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alain L. Bashore  
Primary Examiner  
Art Unit 1762